IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1   1. (currently amended) A method for measuring residual chromatic dispersion in an

2   optical transmission system, the method comprising the steps of:

3   introducing a predetermined amount of chromatic dispersion at the receive end of

4   the system;

5   measuring a bit error rate for the system corresponding to the predetermined

6   amount of chromatic dispersion; and

7   iterating the introducing and measuring steps over a plurality of introduced

8   chromatic dispersion values until the bit error rate is a minimum over all measured bit

9   error rates; wherein the residual chromatic dispersion in the optical transmission system

10   is represented by a complement of the ~~predetermined~~introduced amount of chromatic

11   dispersion at which the minimum bit error rate is achieved.

1   2. (original) The method as defined in claim 1 wherein step of iterating is responsive to

2   the bit error rate in the measuring step and includes selecting a new predetermined

3   amount of chromatic dispersion for the introducing step.

1   3. (original) The method as defined in claim 2 wherein the step of selecting further

2   includes controlling selection of the predetermined amount of chromatic dispersion in a

3   manner to produce a minimum bit error rate.

1   4. (currently amended) The method as defined in claim 1 further including the step of

2   compensating at least some portion of the residual chromatic dispersion in the optical

3   transmission system by selecting a compensating amount from a chromatic dispersion

4 range including 0 ps/nm through and including the ~~predetermined~~introduced amount of

5 chromatic dispersion at which the minimum bit error rate was achieved.

1 5. (original) The method as defined in claim 4 wherein step of iterating is responsive to

2 the bit error rate in the measuring step and includes selecting a new predetermined

3 amount of chromatic dispersion for the introducing step.

1 6. (original) The method as defined in claim 5 wherein the step of selecting further

2 includes controlling selection of the predetermined amount of chromatic dispersion in a

3 manner to produce a minimum bit error rate.

1 7. (currently amended) Apparatus for measuring residual chromatic dispersion in an

2 optical transmission system, the apparatus comprising:

3   a dispersion compensator for introducing a predetermined amount of chromatic

4 dispersion at the receive end of the system;

5   a bit error rate test element for measuring a bit error rate for the system

6 corresponding to the predetermined amount of chromatic dispersion; and

7   a control element coupled to said compensator and said test element for adjusting

8 said compensator to introduce a new predetermined amount of chromatic dispersion over

9 a plurality of chromatic dispersion values ~~in order to reduce the bit error rate for the~~

10 ~~system;,~~ wherein at least a portion of the residual chromatic dispersion in the optical

11 transmission system is represented by a complement of the predetermined amount of

12 chromatic dispersion at which the reduced bit error rate was achieved.

1 8. (currently amended) The apparatus as defined in claim 7 wherein the control element

2 adjusts the compensator to a new predetermined amount of chromatic dispersion in order

3 to ~~minimize the~~ascertain the minimum bit error rate for the system over a plurality of

4 introduced chromatic ~~chromatic~~ dispersion values, and the residual chromatic dispersion

5 in the optical transmission system ~~being~~ is represented by a complement of the

6 predetermined amount of chromatic dispersion at which a minimum bit error rate is

7 achieved.

1 9. (currently amended) The apparatus as defined in claim 8 wherein the control element

2 adjusts the dispersion compensator to a compensating amount of chromatic dispersion

3 selected from a chromatic dispersion range including 0 ps/nm through and including the

4 ~~predetermined~~introduced amount of chromatic dispersion at which the minimum bit error

5 rate was achieved.

1 10. (currently amended) Apparatus for measuring residual chromatic dispersion at an

2 intermediate location in an optical transmission system, the apparatus comprising:

3   a dispersion compensator for introducing a predetermined amount of chromatic

4 dispersion <u>over a plurality of chromatic dispersion values</u> to an optical signal from the

5 intermediate location;

6   an optical receiver for receiving the optical signal comprising the predetermined

7 amount of chromatic dispersion;

8   a bit error rate test element for receiving at least a portion of a signal output from

9 the optical receiver and measuring a bit error rate at the intermediate location for the

10 system corresponding to the predetermined amount of chromatic dispersion; <u>and</u>

11   a control element coupled to the compensator and the test element for iteratively

12 adjusting the compensator to a new predetermined amount of chromatic dispersion until

13 the bit error rate test element measures a minimum bit error rate<u>;</u> wherein the residual

14 chromatic dispersion at the intermediate location in the optical transmission system is

15 represented by a complement of the predetermined amount of chromatic dispersion at

16 which the minimum bit error rate is achieved.

1 11. (previously presented) A method for measuring residual chromatic dispersion at an

2 intermediate location in an optical transmission system, the method comprising:

3   introducing a predetermined amount of chromatic dispersion <u>over a plurality of</u>

4   <u>chromatic dispersion values</u> to an optical signal from the intermediate location using a

5   dispersion compensator;

6   directing the optical signal comprising the predetermined amount of chromatic

7   dispersion to an optical receiver;

8   directing at least a portion of a signal output from the optical receiver to a bit error

9   rate test element;

10   measuring a bit error rate corresponding to the predetermined amount of

11   chromatic dispersion using the bit error rate test element; <u>and</u>

12   iteratively adjusting the compensator to introduce a new predetermined amount of

13   chromatic dispersion and measuring the bit error rate until a minimum bit error rate is

14   achieved;, wherein the residual chromatic dispersion at the intermediate location in the

15   optical transmission system is represented by a complement of the predetermined amount

16   of chromatic dispersion at which the minimum bit error rate is achieved.